

Home Area Network (HAN) Phase 3

Process Evaluation Update

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November 12, 2014



Agenda

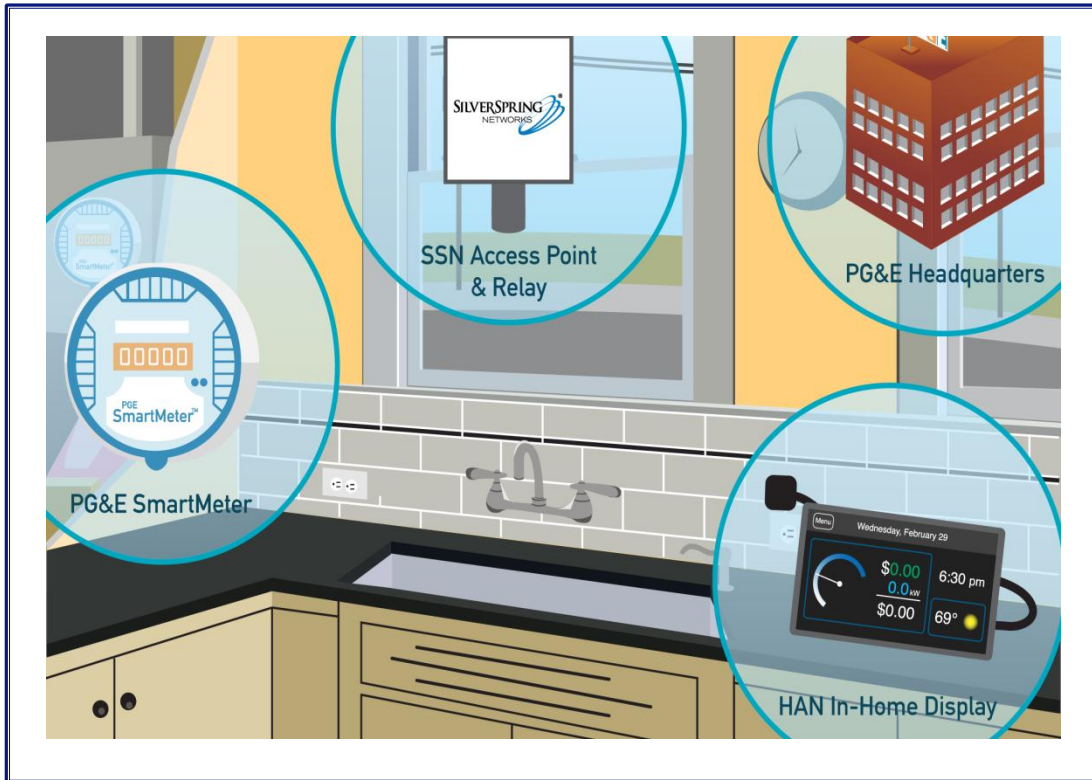
Agenda for Today

- **HAN Phase 3 Pilot Overview**
- **Process Evaluation Overview**
- **Preliminary Findings to Date**
- **Next Steps**



HAN Phase 3 Pilot Overview

HAN Phase 3 is the third in a series of phased pilots to assess rolling out HAN functionality at PG&E



- **HAN Phase 1 tested minimum functionality with professionally installed devices: fall 2012 – spring 2013**
 - Current electric usage – kW
 - Current electric rate – \$ per kW
 - Current electric usage cost – \$
- **HAN Phase 2 tested the same functionality for customers who purchased and installed their own HAN device: spring 2013**
- **Phase 1 evaluation report is available on CALMAC.org**

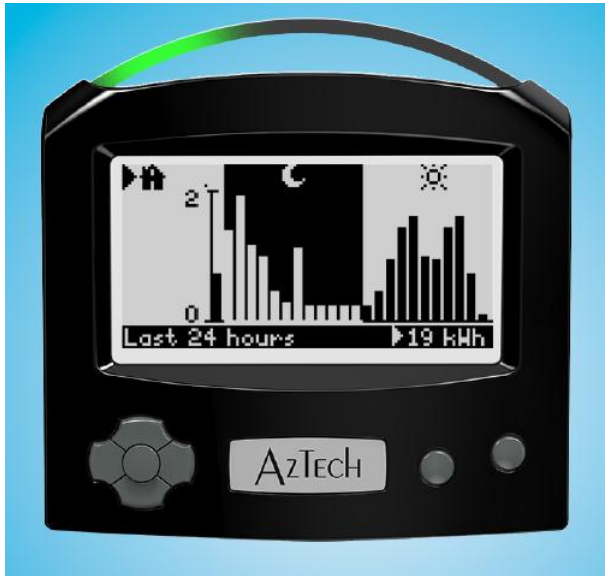
HAN Phase 3 is testing important new HAN functionalities

- **Pilot participants installed their HAN devices using PG&E's new self-service tool on My Energy**
 - Registering the device
 - Joining the device to their SmartMeter

- **A greater variety of electric rates are supported**

- **More information is sent to the customer via the HAN device**
 - Real-time price and usage (kWh)
 - Estimated electric bill-to-date (in any given billing cycle)
 - Estimated monthly electric bill
 - DR event alerts/notifications

HAN Phase 3 launched in August 2014



- **Two different HAN technologies are tested:**
 - Aztech tabletop in-home display (IHD)
 - Bidgely gateway
- **1,700 residential customers recruited**
 - 1,200 SmartRate
 - 500 TOU
 - Evenly split between technologies
- **HAN devices were shipped to participants**
 - Approximately 1,300 participants have attempted to or have succeeded in registering and joining their device
 - About 950 were registered and joined at the end of October
 - Around 400 customers never tried to register and join
 - Participation incentive tied to installation or attempt to install as well as completing market research surveys



Process Evaluation Overview

Pilot participants will be surveyed twice

- **First online survey in field September 19 – October 6:**
 - Motivations to participate
 - Experience registering and joining the device
 - Difficulties using the device
 - Opinions on which features are attractive or engaging
 - How the technology was used
 - Electricity usage behavior
 - SmartDay event notification awareness
 - Customer service experience
- **Second online survey in field November 12 – December 1:**
 - Follow up on initial experiences
 - Changes in interest in the device
 - How does the device affect energy use and attitudes about energy use
- **Pilot participation incentives are tied to survey completion**
 - 91% completion rate on first survey

Research on customer service effectiveness

- **Focus group with nine PG&E call center staff was conducted on November 5 in Sacramento**
 - What are pilot participants are calling in about?
 - Are call center representatives prepared to effectively handle HAN calls?
 - What aspects of training and preparation worked, what didn't?
 - How effectively are call center representatives able to interface with other PG&E organizations in order to provide customer support?
 - What are the current limitations or challenges associated with the self-service joining and registration functionality?

- **Sample of 25 HAN-related call recordings will be summarized and evaluated**

Four participant focus groups will be conducted

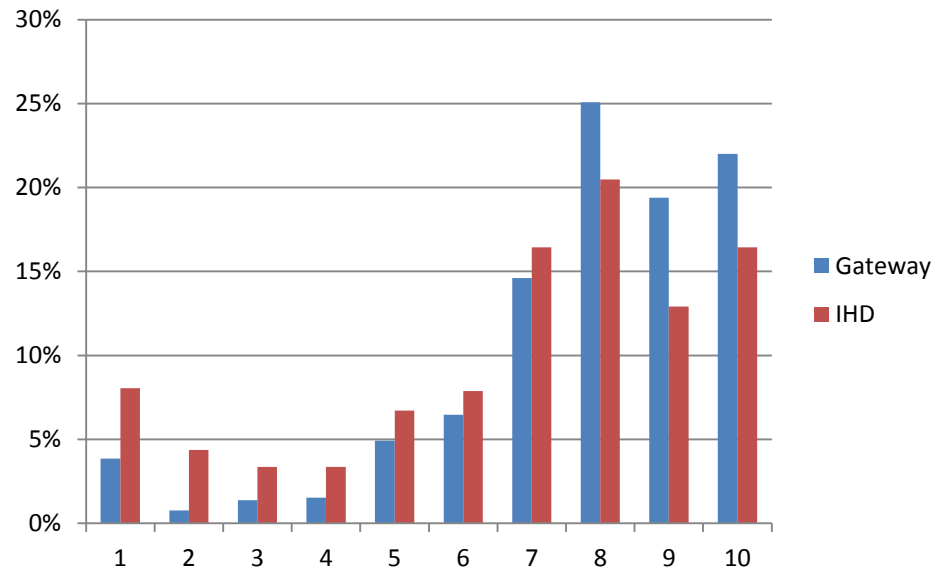
- **Two evening sessions scheduled on November 18 in Sunnyvale**
- **Two evening sessions scheduled on November 19 in Fremont**
- **Each location will have an Aztech IHD session and Bidgely gateway session**
- **Discussions will probe on:**
 - **How do participants use the device, what are they looking at?**
 - **What information is the most valuable and why?**
 - **How has the device influenced attitudes about energy usage?**
 - **Has the device provided a better understanding of time-varying electric rates?**
 - **Does the device help the household better respond to SmartDay events?**
 - **Has the device generated interest in participating in other EE or DR programs?**
 - **How does interest in HAN information displayed in different places vary (smart phone vs. tabletop unit)?**



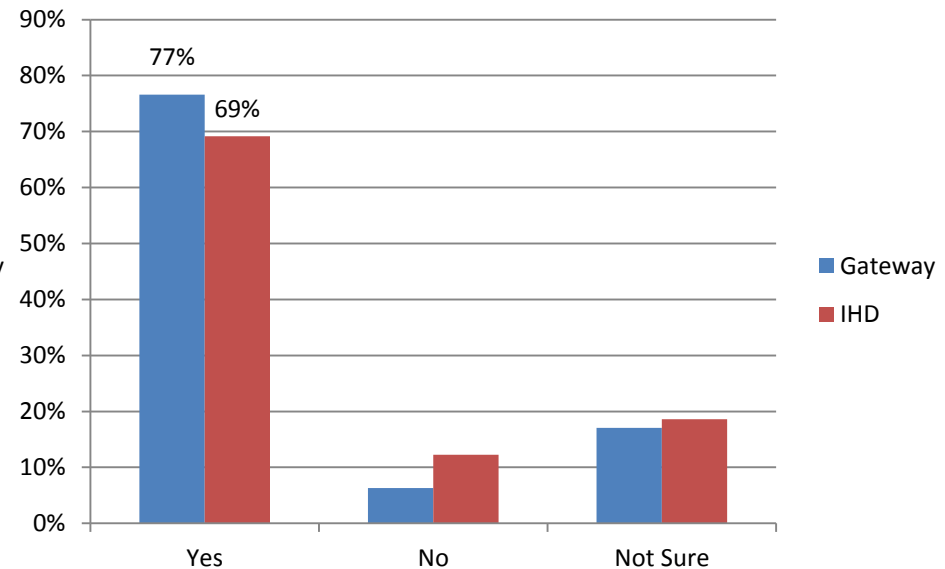
Preliminary Findings from First Survey

Bidgely users are more satisfied than Aztech users, more Bidgely users would recommend it to a friend

How would you rate your satisfaction in using your *IHD/gateway* overall? Using the following 10-point scale, where 1 means “very dissatisfied” and 10 means “very satisfied” and you can use any number between 1 and 10, please rate your overall experience using your device.



Would you recommend the *IHD/gateway* to a friend?



- Average satisfaction score is 7.8 for Bidgely and 6.8 for Aztech users
- 77% of Bidgely users would recommend to a friend vs. 69% for Aztech users

PG&E Process Considerations and Opportunities

- Evidence in this survey that PG&E CCO has made great strides in equipping CSRs to handle IHD (Aztech) calls. Should look to apply same enhancements/learnings for handling Bidgely calls
- This survey indicates that of the “5 elements,” getting SmartRate-related information viewed on the customer’s HAN devices may be the most challenging
 - Depressed perceived accuracy scores for SmartRate pricing information
 - Fix is in the works
 - Limited recall of SmartDay notification
- Remainder of evaluation will provide PG&E more information on relative value of the “5 elements” – cost/benefit relationship may vary
 - Keen interest in current energy usage vs. lower interest in projected monthly bill

Aztech and Bidgely Devices Are Presenting Interesting Tradeoffs: Aztechs Are Easy to See

- **Like the Control4 tabletop unit in Phase 1, the Aztech has participants' attention: they look at it a lot!**
- **Frequent viewing makes the Aztech valuable for SmartRate notification**
- **Current price of electricity may be easier to see on the Aztech**
- **Aztechs are more likely to be used to determine individual appliance loads**

Aztech and Bidgely Devices Are Presenting Interesting Tradeoffs: Bidgely is Easier to Use

- **Aztech devices trail Bidgely in satisfaction:**
 - **Joining the Bidgely device appears to have been an easier process**
 - **Aztech users called CCO more often for support**
 - **Bidgely users have greater recall of the presentation of the four basic information elements**
 - **Fewer Bidgely users report that their device isn't working**
 - **Fewer Bidgely users report that they want more HAN information from PG&E**

HAN sweet spot will be easy to see AND easy to use. Final survey and focus groups will explore how PG&E HAN can get there.



Next Steps

Final evaluation activities are underway

- **Second online participant survey: November 12 – December 1**
- **Four focus groups: November 18 and 19**
- **Draft report: December 12**



Thank you for your attention

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